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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/685,317	10/10/2000	Daniel L. Nower	53199.US	4835

408 7590 10/08/2003

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EXAMINER	
LAU, TUNG S	

ART UNIT	PAPER NUMBER
2863	

DATE MAILED: 10/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/685,317	NOWER ET AL.	
	Examin r	Art Unit	
	Tung S Lau	2863	

-- The MAILING DATE of this communication appears on the cover sheet with th correspond nc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 September 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) *1-10 and 18-22* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11-15 and 24* is/are rejected.

7)☒ Claim(s) *16,17 and 23* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

1. Claims 1-10, 18-22 stand withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention as noted in paper number 6.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

a. Claims 11, 12, 13 are rejected under 35 U.S.C. 102(b) as being anticipated by McIntosh (U.S. Patent 4,891,764).

Regarding claim 11:

McIntosh discloses an alignment system for aligning a centerline of a first shaft with a centerline of a second shaft comprising: an analyzer having memory (fig. 1, unit 25), a mounting bracket having engagement surfaces for engaging the first shaft and securing the bracket to the first shaft (fig. 2, unit 34, 33), a sensor head having a facing surface and a rear surface in opposing relation disposed on the mounting bracket and extending in a substantially perpendicular orientation with respect to the centerline of the first shaft (fig. 3, unit 49, 48), a collimated light source mounted on the sensor head for transmitting a beam of energy in a

direction that is substantially parallel to the first shaft (fig. 3, unit 47, 46), a photosensitive sensor mounted on the sensor head for sensing light and generating a position signal corresponding to a position of a light beam impinging upon the photosensitive sensor (fig. 3, unit 49, 48), at least one accelerometer mounted on the sensor head for generating a signal corresponding to the angular orientation of the sensor head with respect to the first shaft (Col. 7, Lines 25-37), and a microprocessor for processing the signal generated by the at least one accelerometer (fig. 4, unit 61), operable to provide an output corresponding to the angular position of the sensor head relative to the first shaft (fig. 4, unit 62, fig. 5).

Regarding claim 12:

McIntosh discloses an alignment system for aligning a centerline of a first shaft with a centerline of a second shaft comprising an analyzer having memory (fig. 4, unit 61), a mounting bracket having engagement surfaces for engaging the first shaft and securing the bracket to the first shaft, a sensor head having a facing surface and a rear surface in opposing relation disposed on the mounting bracket and extending in a substantially perpendicular orientation with respect to the centerline of the first shaft (fig. 2, unit 33,34, 32), a collimated light source mounted on the sensor head for transmitting a beam of energy in a direction that is substantially parallel to the first shaft a photosensitive sensor mounted on the sensor head for sensing light and generating a position signal corresponding to a position of alight beam impinging upon the photosensitive sensor (fig. 3, unit

49,48, 46), at least one accelerometer for generating a signal corresponding to the angular orientation of the sensor head with respect to the first shaft (Col. 7, Lines 25-37), and a microprocessor for processing the signal generated by the at least one accelerometer (fig. 4, unit 61, Col. 7, Lines 25-37), wherein the microprocessor further comprises an angle processing module for determining a current head quadrant location and determining the angular position of the sensor head based in part on the quadrant location (fig. 4, unit 62, 63), the microprocessor providing an output corresponding to the angular position of the sensor head relative to the first shaft (fig. 4, unit 71, 74).

Regarding claims 13:

McIntosh discloses the signal is proportional to the orientation of the sensor (fig. 3, unit 48, 49).

b. Claim 15 is rejected under 35 U.S.C. 102(b) as being anticipated by Rider (U.S. Patent 4,566,327).

Regarding claim 15:

Rider discloses an alignment system comprising: a first dual-axis accelerometer having a first sensing axis for sensing a first acceleration component and a second sensing axis for sensing a second acceleration component (Col. 10, Lines 3-26), wherein the first and second sensing axes are in substantially perpendicular relation, the first dual-axis accelerometer operable to output a first

signal proportional to the sensed first acceleration component and to output a second signal proportional to the sensed second acceleration component (Col. 9-10, Lines 14-26), a microprocessor for processing the signals generated by the first and second dual axis accelerometers (Col. 17, Lines 40-67) , operable to provide an output corresponding to the angular position of the sensor head relative to the first shaft (Col. 3, Lines 3-25).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

a. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rider (U.S. Patent 4,566,327) in view of McIntosh (U.S. Patent 4,891,764).

Regarding claim 24:

Rider discloses an alignment system for aligning a first shaft Comprising a sensor head coupled to the first shaft (fig. 1, unit 64), a first dual-axis accelerometer having a first sensing axis for sensing a first acceleration component and a second sensing axis for sensing a second acceleration component (Col. 10, Lines 3-26), wherein the first and second sensing axes are in substantially perpendicular relation (Col. 10, Lines 3-26), the first dual-axis

accelerometer operable to output a first signal proportional to the sensed first acceleration component and to output a second signal proportional to the sensed second acceleration component (Col. 9, Lines 14-23), a processor for processing the signals generated by the first and second dual-axis accelerometers, operable to provide an output corresponding to the angular position of the sensor head relative to the first shaft (fig. 4, unit 141, fig. 7b).

Rider does not disclose the use of light source sensing, McIntosh discloses the use of light source sensing (Col. 3, Lines 19-37), in order to detect position with great accuracy (Col. 3, Lines 19-37).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Rider to have the use of light source sensing taught by McIntosh, in order to detect position with great accuracy (Col. 3, Lines 19-37).

As regards to duplication of a first dual axis, Rider discloses the claimed invention except for the duplication of a first dual axis. It would have been obvious to one having ordinary skill. in the art at the time the invention was made to, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. St. Regis Paper Co. v. Bemis Co., 193 USPQ 8.

b. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over McIntosh (U.S. Patent 4,891,764) in view of Rider (U.S. Patent 4,566,327).

McIntosh disclose an apparatus including the subject matter discussed above except the use of dual axis configuration; Rider discloses the use of dual axis configuration (abstract) in order to improve the bandwidth and better analysis of the system (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify McIntosh to have the use of dual axis configuration taught by Rider in order to improve the bandwidth and better analysis of the system (abstract).

Claim Objections

4. Claims 16, 17, 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all the limitation of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance: prior art fail to teach the use of the fifth signal depend on the first and third signal or the sixth and the fourth signal; to correct the centrifugal and angular acceleration effects of the system.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung S Lau whose telephone number is 703-305-3309. The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 703-308-3126. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-5841 for regular communications and 703-308-5841 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

TC2800 FAX Telephone Numbers: 703-872-9306

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TL

John Barlow
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